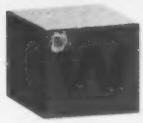
McGRAW-HILL CONSTRUCTION INFORMATION GROUP

1991 DODGE/SWEET'S CONSTRUCTION OUTLOOK

FAMILIAR PROBLEMS/NEW ENVIRONMENT



While the debate about whether or not the U.S. economy is heading into recession continues, the construction sector is already there. Four consecutive quarters of sharply declining construction contracting (see chart) are more than enough evidence to establish the point.

Preliminary estimates of 1990 construction contract value show a 9 percent decline from the previous year's all-time high, a shrinkage of $23 billion of newly started work to $245 billion and the first reversal in 8 years.

- **Nonresidential building**, with an overall setback of 11 percent, once again showed both sides of its split personality. Commercial and industrial building took another hard fall (−20 percent), while institutional building (+4 percent) went its own upward way.
- **Residential building**, largest of the three broad categories of construction, declined by 10 percent in 1990 as one family building joined the long-troubled apartment/ condo market in the loss column. Mid-1980's overdevelopment and the more recent savings and loan scandal are obvious handicaps, and there are no quick fixes at hand.
- **Nonbuilding construction** (better known as public works projects) alone held steady in 1990, finishing the year within two percent of the previous contracting total. Public works construction typically responds to the availability of program appropriations, not to market conditions. In the present era of budgetary restraint, infrastructure programs enjoy the mixed status of receiving reasonably steady funding, though at less than their full authorization.

AFTER THE CRASH...
STABILITY, OR FURTHER DECLINE?

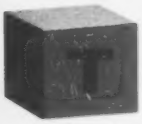
And Now: Two "Crises"

Most of the decline of construction contracting occurred during the first two quarters of 1990–before the confrontation in the Persian Gulf, and before the Federal budget impasse. At that time, the construction sector was already having more than enough difficulty coping with commercial overdevelopment, budget austerity, and the breakdown of the thrift industry.

Prior to these mid-1990 events, the assumption that the economy would squeak through the rest of this year and all of 1991 without lapsing into recession carried more credibility than it does now. To an economy already at a virtual standstill, the added burdens of energy shock and fiscal drag will be difficult to absorb without further setback.

Before considering the risks brought by these current events, a progress report on the status of problems left over from the 1980's is in order.

THREE FAMILIAR PROBLEMS...



hose Stubborn Commercial Vacancy Rates

Since reaching a peak in the mid-1980's, contracting for commercial building (offices, stores/shopping centers, hotels, and apartments/condos) has fallen by 50 percent, from 1,500 million square feet in 1985 to only 750 million this year. Yet the surplus of commercial space persists. Take offices as a case in point.

In 1986, a year after the peak of the office building boom, the national average vacancy rate had climbed to 21 percent. By mid-1990, after five consecutive years of less and less new construction, the vacancy rate was still just under 20 percent!

To appreciate the extent of overdevelopment that occurred during the "tax shelter" boom, it is necessary to consider the demand for office space in relation to its supply. Estimates of the principal sources of demand for offices (growth of the white collar work force, space per worker, replacement, relocation, etc.) indicate that an average of about 250 million square feet per year would have been appropriate for the mid-1980's. More than that would push the vacancy rate up; less would reduce it. With 250 million square feet as a benchmark, it isn't hard to see why vacancy rates haven't receded much.

- In 1985 and 1986, supply (new construction) peaked at 350 million square feet and turned down, but the total for those two years (650 million) exceeded demand by 30 percent. Vacancy rates kept rising although building declined.
- For the next three years annual supply continued to decline, but not enough to make much difference. The total for those years (760 million square feet) almost exactly matched theoretical demand. The vacancy rate edged down to 20 percent, but no lower.
- It wasn't until 1990, when contracting sank to 165 million square feet that significant downward pressure on the vacancy rate began to come from the supply side. Even so, the response will be limited in the short run for two reasons: (1) the lag between starts and completions means that last year's starts are still becoming available for occupancy, and (2) on the demand side, the recent economic slowdown/recession means a reduced rate of employment growth.

Apart from any temporary (i.e., cyclical) change in demand, the average rate of absorption of office space during the mid-1980's is no longer appropriate to the 1990's. Low birth rates in the 1970's will continue to resurface as a falling growth rate of the labor force (and for that matter, for apartment/condo occupants and shoppers) as the 15 to 30 age cohort continues to shrink. Sustained high vacancy rates for commercial real estate and a low volume of construction are virtually built into the first half of the 1990's by history.

Housing And The S&L Scandal

Did the collapse of the savings and loan industry bring about the decline of housing starts, or was it the other way around?

Certainly the housing market had been coming off its peak (1985 @ 1,846,000 total units) long before the S&L scandal became a cause celebre in 1989 with the enactment of FIRREA. The roots of the S&L disaster go all the way back to the seemingly innocuous Depository Institution Deregulation Act of 1980. But the shaky financial condition of the thrifts, with their portfolios of speculative commercial real estate and junk bonds, somehow remained a dirty little secret. Finally it became necessary to mount a massive rescue operation as more than a thousand banks went under. Since then, a scarcity of funds has displaced the cost of credit as the housing industry's achilles' heel.

Shrinkage of this primary source of small and medium sized builder/developers' ADC loans (acquisition, development, and construction–the up-front money that gets projects started) was only the initial shock. Disposition of defunct S&L assets by the Resolution Trust Corporation is depressing real estate values around the country (especially in the Northeast), discouraging both lenders and developers from undertaking new projects. And for the surviving thrifts, the *re*-regulation means tighter solvency requirements and generally tougher lending standards.

The Deficit Vs. The Infrastructure

Throughout the first half of the 1980's, public works construction was easily one of the construction industry's hottest growth markets. Between 1981 and 1987, the annual value of contracting for transportation and environmental projects soared from $24.7 billion to $42.5 billion, a compound rate of expansion of 9½ percent over six years. Highway and bridge construction, financed by the 1982 Surface Transportation Act's 5¢ per gallon fuel tax, was responsible for most of the 1980's surge of public works construction.

It all came to a screeching halt in 1987, however. Gramm-Rudman virtually froze appropriations for public works and many other Federal programs in the hope of bringing the ballooning deficit under control. Since 1987, contracting for infrastructure projects has been held between $43 and $44 billion per year (implying a "real" decline after adjustment for inflation). Until now the only change of any significance since G-R went into effect has been that state governments have had to come up with extra funds to offset the shrinking Federal share.

In 1990, the familiar problem of chronic deficits escalated into a "crisis." The added burden of the thrift industry bailout sent the deficit all the way back to its 1986 peak of $225 billion.

...PLUS TWO "CRISES"...

The Deficit Crisis

Producing a Federal budget is a two-stage process concerning, in turn, economics and politics. Reaching a budget resolution–the broad outline of the coming year's revenue and expenditure agreed on by Congress–is essentially an economic consideration. It concerns the bottom line: how *much* taxation, how *much* spending, and how *big* a deficit. The second stage concerns hammering out the details: whose taxes will be raised, and whose programs will be cut in order to meet the deficit target. At the time this booklet went to press, the 1991 budget was in limbo between the economic issues of stage one and the political consequences of stage two.

The taming of the deficit made for an interesting summer and fall on Capitol Hill. It was all about the conflict between idealism and reality. Idealism is the Gramm-Rudman law specifying progressively lower deficit goals. Reality is the savings and loan bailout which has rendered G-R obsolete.

Getting past stage one required a difficult re-evaluation of the G-R deficit targets. Largely due to the added burden of the S&L bailout, the 1990 deficit, which was not supposed to exceed $100 billion, ballooned to $225 billion. Worse than that, the projected 1991 deficit of nearly $300 billion would be more than four times the $64 billion G-R target for next year.

At September's budget summit conferences, all the options were unsatisfactory (one definition of a crisis). Compliance with the law meant taxing and cutting for a total of some $235 billion from the projected budget. Failing to do that meant reducing expenditures by the entire amount via the sequestration (pro-rata) process which could lead to arbitrary cuts of up to 30 percent. The only alternative was to rewrite the law, which was what the 1991 budget resolution settled for. Its elements: a modest tax increase and some token spending cuts which together are to reduce the projected deficit by $40 billion. Even so, the remaining deficit for 1991 will climb to at least $250 billion–some $25 billion more than in 1990, and the highest ever. (Senator Dole said it best: "We'd rather make tough speeches than tough choices.") If there is credibility in the resolution, it is in the new five year plan for deficit reduction which recognizes constraints that G-R couldn't and didn't.

It is on economic grounds that the fy 1991 budget resolution can best be justified. Considering the fragile state of the economy, the fiscal drag of downshifting from last year's $225 billion deficit to a mandated $64 billion would have greatly accelerated the economy's already ominous drift toward recession. For this reason, the choice not to go along with the built-in rigidity of G-R was more important for what it *didn't* do than for what it did.

The hardest parts–settling the taxation issues and preparing the 13 appropriations bills–lie ahead. However, the budget resolution of October 8, with its $250 billion deficit, implies cosmetic rather than major surgery for infrastructure and other Federal programs. Not quite "business as usual," but not far from it, either.

Among some of the broader implications of the revised deficit reduction plan: sustained high deficits mean continuing high inflation, and high inflation translates into high long term interest rates.

The Persian Gulf Crisis

Unlike the deficit crisis, the Persian Gulf crisis can't be revised away with the stroke of a pen. Gauging its effect on the outlook requires a whole host of bold assumptions that could be obsolete by the time this is in print. The most important assumption is that the confrontation with Iraq will not escalate beyond a blockade, and that it will eventually conclude in a negotiated settlement. With the Saudis and other Arab nations picking up the bill for much of the U.S. military cost, the major economic impact of the conflict is being transmitted through higher oil prices.

Oil prices are expected to remain in the mid-to-upper $30's per barrel through the winter. Prices are likely to retreat over the course of 1991 as additional output by Saudi Arabia and other producers largely offsets the Iraq/Kuwait shortfall. Stability at $25/barrel is anticipated by 1992.

Higher energy costs are leading to a surge of inflation in the range of 6 to 7 percent (as measured by the Consumer Price Index) during the second half of 1990 and the first half of 1991. Inflation will *average* about 6 percent for both years, vs. 4 to 5 percent since 1987, and recede below the 5 percent threshold again in 1992. Before that happens, the interaction of the resolution of the deficit issue, Federal Reserve credit policy, and plain old consumer confidence will determine whether or not the economy slips into recession. With confidence sagging, unemployment rising, real GNP growth already slowed to a crawl and the Fed standing pat, energy shock could be the catalyst for a recession that was going to happen anyway.

Monetary relaxation could offset the dampening effects of higher taxes and/or reduced Federal spending, but the inevitability of worsening inflation puts a limit on the monetary option. If neutrality is as far as the Fed is willing to extend itself, that may not be far enough to offset the predominantly negative forces which are inhibiting economic expansion.

Whether or not conditions by next winter fulfill the technical "two quarters of declining real GNP" definition of recession is academic. Rising unemployment, insecurity, and higher interest rates will make it feel like one–a feeling which will inhibit business capital spending, consumer buying, and homebuilding.

For the time being, the most likely prospect is borderline recession, followed by sluggish recovery.

...EQUALS A SECONDARY DECLINE FOR CONSTRUCTION

As crises go, neither the collapse of the Gramm-Rudman deficit reduction program nor the recurrence of energy shock quite seems to deserve so dire a label. The Persian Gulf confrontation is unquestionably a *diplomatic* crisis. But so far at least, its economic consequences are shaping up as not much more than an aggravation of an already bleak outlook. And to no one's great surprise, the deficit crisis has been downgraded to a budgetary squeeze after the usual eleventh hour compromises.

Even so, these two events represent additional impediments that will make the resolution of the construction industry's pre-existing problems just that much harder. A tighter squeeze on public programs weakens what has been a source of stability and support. And even a mild recession as the alternative to listless growth carries the risk of further decline of commercial/industrial building and housing.

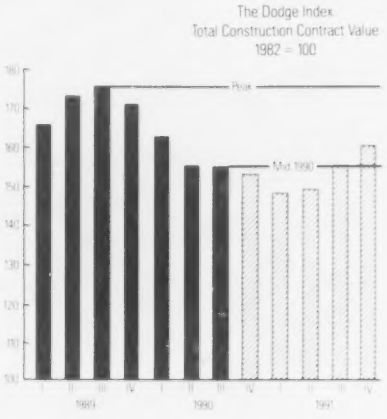
The Case for Stability

As long as the general economic outlook for 1991 remained one of weak growth–but *some* growth, and not recession–there was a reasonably strong case for stability of construction contracting at its reduced mid-1990 level. Commercial building, after five years of decline, had already experienced a sharper cutback than in either of the previous two cyclical reversals. Housing, at a depressed 1.2 million rate of starts by midyear, had absorbed the worst of the thrift institution upheaval, and might be expected to hold steady, and possibly even rebound a bit. Public works construction was holding up well through the first half of 1990, and October's budget resolution at least eliminated the threat of sequestration. Institutional building was on an upward trend that was demographically sustainable. Altogether, the outlook for construction contracting at mid-1990 had been one of several quarters of uneasy equilibrium, followed by recovery in due time.

The "R" Word

The recession scenario changes that. The bottom line of the category-by-category analysis of construction markets is this: what might have been a small but welcome gain in construction contracting in 1991 (mostly in housing) now looks more like a secondary, small decline.

CONTRACTING IN 1991...
DOWN A BIT MORE, THEN UP



Next year's total is headed for another setback of about 2 percent to $241 billion, following 1990's much sharper break of 9 percent from the 1989 peak of $268 billion. Chances are, however, that 1991–with its prospect of a second half turnaround–will feel better to contractors and building product manufacturers than the full year's negative total suggests.

Analysis of major categories of construction follows.

Commercial Building

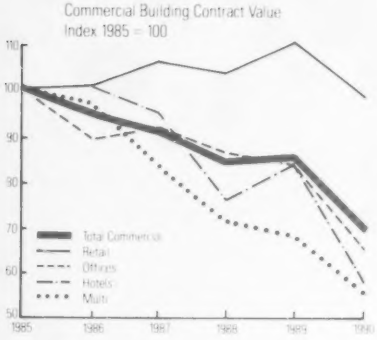
Just when it was beginning to look as though commercial building had finally reached a level low enough to stabilize, a new variable, recession, arrived on the scene. The growing probability of energy shock recession in the near future alters the outlook for commercial building from one of low level stability to yet further decline. While total commercial building (offices, stores and warehouses, hotels, and multifamily housing) could slip as much as another 5 percent after 1990's 20 percent crash, the risk is not evenly distributed. Instead of an across-the-board decline in 1991, retail building is likely to bear the brunt of next year's setback.

Alone among the several categories of commercial construction, retail building has not come down from its mid-eighties high (see chart). While other types of commercial building have fallen by more than 30 percent since 1985, the maverick retail building market was still holding its 1985 contract value ($23 billion) as late as 1990. The reason: irrepressible one family homebuilding...until now.

Even under the extraordinary circumstances of the mid-1980's commercial building boom, retail development behaved in its time-honored fashion. It responded more to needs generated by residential development than to tax stimuli, as office and apartment/condo building did. Because single family housing starts remained strong and steady all the way through early 1989, the derived demand for stores and warehouses held up long after other types of commercial building collapsed once tax reform took away their invisible means of support.

That, too, has changed. After homebuilding fell from its lofty plateau early in 1989, it was only a matter of time before retail contracting would follow, as in fact it did later in the year. With no near-term improvement in prospect for single family building, a further decline of store/shopping center development of up to 10

RETAIL BUILDING...
THE LAST TO GO



percent is to be expected. Retail building is retreating to a more compatible relationship with the temporarily reduced volume of homebuilding.

Other types of commercial building, though sensitive to the recession conditions that threaten to develop later in 1990 and on into 1991, are already so depressed that the risk of still further decline is minimal. After drastic setbacks in 1990 of 20 percent and more, contracting for offices, hotels and apartments face only small declines next year.

It is worth emphasizing that a mild and brief recession in 1990/91 won't bring total commercial building down much below its 1990 level. The bad news is the reason: it is already at recession level.

One Family Housing

Building 6 million one family homes in as many years (1983 to 1988) was no small accomplishment. If supportive demographics (that Fifties generation reaching middle age) was what made it possible, why not more of the same in 1989, 1990, and 1991?

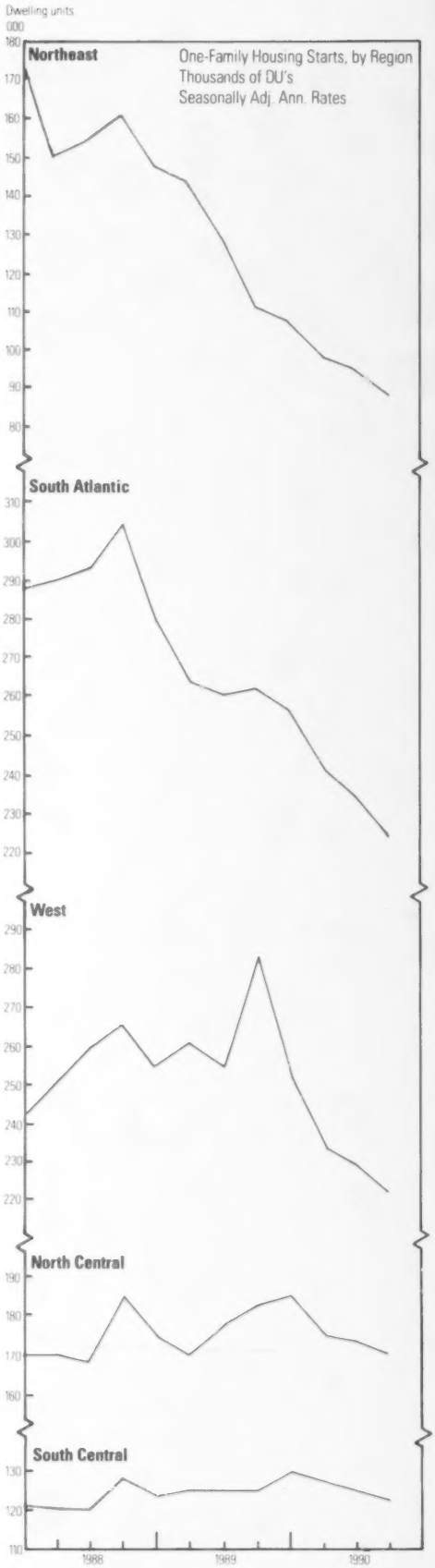
Problems in the housing market are often linked to credit conditions, so it is tempting to draw an analogy between the breakdown of the thrift industry in 1989/90 with the monetary overkill of the early 1980's or with the disintermediation of the mid-1970's. This would be an oversimplification. There is little question that the collapse of the S&L system will inhibit the recovery of homebuilding from its recent setback. However, there's more to the slippage of one family housing starts from their million-a-year pace than the savings bank scandal. For homebuilders, the problems are more regional than national. In 1990, a total volume of 875,000 one family housing starts still looks fairly solid compared with 650,000 units started in 1981/82 when soaring mortgage rates brought building down everywhere at once. This time, the disparity among regional markets suggests that there's more going on than just credit scarcity.

As the chart shows, the 1989/90 decline of one family home building really began early in 1988. It started in the Northeast, where overinflated real estate values and a regional recession (financial services; computers) combined to trigger an overdue readjustment that is still going on. Starts of one family homes in the Northeast fell 16 percent in 1989, and another 27 percent in 1990 for a cumulative two-year decline of 40 percent. A parallel, though less severe correction to overdevelopment in the previously booming South Atlantic region led to a 20 percent decline in homebuilding between 1988 and 1990. *These two regions were the locale of 90 percent of the national decline from 1,003,000 one family housing starts in 1988 to 875,000 in 1990.*

Over those same two years, the Central regions–North and South–actually *improved* on their 1988 volume. In the West, which accounts for one out of every four of the nation's single family starts, building showed a modest gain in 1989 (while the East was in decline) but broke sharply (down 10 percent) in 1990. The issue for 1991: how will each of these regions be reacting to next year's expected credit and economic developments?

Credit conditions in 1991 are likely to affect all five regions more or less

ONE FAMILY HOUSING...
REGIONAL VARIATIONS



equally. A temporary escalation of mortgage rates and a continuing scarcity of ADC funding will, by themselves, be enough to defer a general recovery of homebuilding until late in the year. The further prospect of an "energy recession" is bound to be more damaging to the economies of the Northern regions. However, it could even be a stimulus to the oil patch. The hardest call is the West, where military spending cutbacks, rising unemployment, and overpriced real estate makes this important region one of the high risk areas for 1991. The prospect: a further decline of housing starts of between 5 and 10 percent. Two regions–the North Central, where the last energy recession bit hardest, and the South Atlantic, where overdevelopment is still a concern–are vulnerable to declines of about 5 percent next year. In the Northeast, where homebuilding is already deeply depressed, a case can be made for stability (at best). The South Central alone offers the potential for a modest gain of up to 5 percent next year.

A more generalized recovery of homebuilding could begin in 1991's second half as underlying conditions take a turn for the better. After midyear, mortgage rates should be on their way down again, and the stress of recession should be fading. As a marginal plus, the S&L rescue operation will be another year along by then. In combination, these changes will let the housing industry do the right thing: lead the rest of the economy into recovery and expansion.

Although the direction of homebuilding will most likely be upward during the second half of 1991, next year's 12-month total of newly started one family dwelling units is more apt to be lower than higher. Even if the final quarter's rate of starts reaches 900,000 units, the drag of a first half average of 825,000 units will hold total 1991 starts to 850,000–a 3 percent decline from 1990's estimated volume of 875,000 units.

1991 NATIONAL ESTIMATES
DODGE CONSTRUCTION POTENTIALS

Nonresidential Buildings		1990 Preliminary	1991 Forecast	Percent Change 1991/90
Floor Area (millions of square feet)	Office Buildings	165	150	– 9
	Stores & Other Commercial	475	410	– 14
	Manufacturing Buildings	125	120	– 4
	Total Commercial & Manufacturing	765	680	– 11
	Educational	141	139	– 1
	Hospital & Health	69	66	– 4
	Other Nonresidential Buildings	145	140	– 3
	Total Institutional & Other	355	345	– 3
	Total Nonresidential Buildings	1,120	1,025	– 8
Contract Value (millions of dollars)	Office Buildings	$ 17,000	$ 16,300	– 4
	Stores & Other Commercial	22,625	20,600	– 9
	Manufacturing Buildings	7,275	7,200	– 1
	Total Commercial & Manufacturing	$ 46,900	$ 44,100	– 6
	Educational	$ 15,400	$ 15,675	+ 2
	Hospital & Health	8,650	8,625	–
	Other Nonresidential Buildings	15,300	15,275	–
	Total Institutional & Other	$ 39,350	$ 39,575	+ 1
	Total Nonresidential Buildings	$ 86,250	$ 83,675	– 3

Residential Buildings				
Dwelling Units* (thousands of units)	One Family Houses	875	850	– 3
	Multifamily Housing	310	300	– 3
	Total Housekeeping Residential	1,185	1,150	– 3
Floor Area (millions of square feet)	One Family Houses	1,553	1,514	– 3
	Multifamily Housing	340	325	– 4
	Nonhousekeeping Residential	52	49	– 6
	Total Residential Buildings	1,945	1,888	– 3
Contract Value (millions of dollars)	One Family Houses	$ 88,525	$ 88,600	–
	Multifamily Housing	17,725	17,700	–
	Nonhousekeeping Residential	4,525	4,450	– 2
	Total Residential Buildings	$110,775	$110,750	–

Nonbuilding Construction				
Contract Value (millions of dollars)	Transportation Construction	$ 24,550	$ 23,425	– 5
	Environmental Construction	19,450	18,875	– 3
	Total Public Works	$ 44,000	$ 42,300	– 4
	Utilities	$ 4,000	$ 4,000	–
	Total Nonbuilding Construction	$ 48,000	$ 46,300	– 4

All Construction				
Contract Value (millions of dollars)	**Total Construction**	$245,025	$240,725	– 2
	Dodge Index (1982 = 100)	156	153	

*F.W. Dodge basis.

1991 REGIONAL ESTIMATES
DODGE CONSTRUCTION POTENTIALS

Northeast	CT, ME, MA, NH, NJ, NY, PA, RI, VT	1990 Preliminary	1991 Forecast	Percent Change 1991/90		1990 Preliminary	1991 Forecast	Percent Change 1991/90
Contract Value (millions of dollars)	**Nonresidential Building**				**Residential Building**			
	Commercial and Manufacturing	$ 8,250	$ 7,850	−5	One Family Houses	$10,125	$10,350	+2
	Institutional and Other	8,150	7,675	−6	Multifamily and Nhskpg.	3,425	3,325	−3
	Total	$16,400	$15,525	−5	**Total**	$13,550	$13,675	+1
	Nonbuilding Construction	$ 9,750	$ 9,725	-	**Total Construction**	$39,700	$38,925	−2

North Central	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI	1990 Preliminary	1991 Forecast	Percent Change 1991/90		1990 Preliminary	1991 Forecast	Percent Change 1991/90
Contract Value (millions of dollars)	**Nonresidential Building**				**Residential Building**			
	Commercial and Manufacturing	$12,225	$11,175	−9	One Family Houses	$18,475	$18,650	+1
	Institutional and Other	9,100	8,650	−5	Multifamily and Nhskpg.	5,050	4,550	−10
	Total	$21,325	$19,825	−7	**Total**	$23,525	$23,200	−1
	Nonbuilding Construction	$11,175	$10,325	−8	**Total Construction**	$56,025	$53,350	−5

South Atlantic	DE, DC, FL, GA, MD, NC, SC, VA, WV	1990 Preliminary	1991 Forecast	Percent Change 1991/90		1990 Preliminary	1991 Forecast	Percent Change 1991/90
Contract Value (millions of dollars)	**Nonresidential Building**				**Residential Building**			
	Commercial and Manufacturing	$ 8,750	$ 8,200	−6	One Family Houses	$21,150	$20,900	−1
	Institutional and Other	7,800	8,250	+6	Multifamily and Nhskpg.	5,000	5,275	+6
	Total	$16,550	$16,450	−1	**Total**	$26,150	$26,175	-
	Nonbuilding Construction	$ 8,325	$ 7,825	−6	**Total Construction**	$51,025	$50,450	−1

South Central	AL, AR, KY, LA, MS, OK, TN, TX	1990 Preliminary	1991 Forecast	Percent Change 1991/90		1990 Preliminary	1991 Forecast	Percent Change 1991/90
Contract Value (millions of dollars)	**Nonresidential Building**				**Residential Building**			
	Commercial and Manufacturing	$ 5,275	$ 5,550	+5	One Family Houses	$11,225	$12,275	+9
	Institutional and Other	5,200	5,825	+12	Multifamily and Nhskpg.	1,400	1,525	+9
	Total	$10,475	$11,375	+9	**Total**	$12,625	$13,800	+9
	Nonbuilding Construction	$ 7,725	$ 7,600	−2	**Total Construction**	$30,825	$32,775	+6

West	AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY	1990 Preliminary	1991 Forecast	Percent Change 1991/90		1990 Preliminary	1991 Forecast	Percent Change 1991/90
Contract Value (millions of dollars)	**Nonresidential Building**				**Residential Building**			
	Commercial and Manufacturing	$12,400	$11,325	−9	One Family Houses	$27,550	$26,425	−4
	Institutional and Other	9,100	9,175	+1	Multifamily and Nhskpg.	7,375	7,475	+1
	Total	$21,500	$20,500	−5	**Total**	$34,925	$33,900	−3
	Nonbuilding Construction	$11,025	$10,825	−2	**Total Construction**	$67,450	$65,225	−3

Total Housing

Reflecting somewhat higher prices and a changing regional mix, total 1991 residential building value will be virtually unchanged from 1990's $111 billion, and consequently will have a neutral effect on total construction contract value next year. By contrast, roughly half the overall decline of nearly $25 billion of new construction in 1990 consisted of housing.

Public Works Construction

Spared from starvation by the budget summiteers, Federal public works programs must nevertheless become accustomed to a leaner diet. Shifting the cost of the development and maintenence of the nation's infrastructure to state and local governments was one of the hidden agendas of the 1991 budget marathon. This transfer has been going on through most of the 1980's under the name of "The New Federalism." But it is bound to take on added meaning with the new five year plan for deficit reduction.

Happily, most states continue to generate a budget surplus. Nevertheless these surpluses are dwindling in comparison with the second half of the 1980's when state and local governments together became the source of more than half of all public works construction funding. Even a mild recession in 1991 would strain state/local finances, limiting their ability to take up the slack in Federal grants.

Owing to the combination of Federal austerity and limitations on state/local capabilities, total construction contract value of public works projects is forecast to decline in 1991 for the first time in ten years. (The last decline, in 1981, also coincided with recession conditions.) After strong expansion through the middle years of the past decade prompted by the Surface Transportation Assistance Act, and several more years of high-level stability, the value of public works contracting in 1991 could drop back to $42 billion from its current $44 billion.

There is little prospect for near-term improvement.

Two substantial tax increases proposed by the 1991 Federal budget resolution would appear to be supportive of transportation construction, but aren't. Highway construction is traditionally linked to Federal taxes on fuel, which are slated for a two stage hike from the current 12¢ per gallon. Little, if any, of this potential $10 billion annual revenue will be available to the Department of Transportation, however. It is intended instead for deficit reduction. Meanwhile, the 25 percent (and climbing) increase in the price of gasoline since the Persian Gulf crisis will be cutting into revenue earmarked for the highway trust fund as demand–however inelastic it may be–is inhibited. The other new transportation-related tax, a boost of the Federal levy on airline tickets from 8 to 10 percent, will also disappear into general revenue in support of deficit reduction.

A statement of the Administration's policies and priorities concerning transportation, which comes from the 1991 budget, is illuminating if not encouraging. It makes the following points:

- Development of the transportation infrastructure is a shared responsibility among Federal, state, and local governments as well as the private sector.
- The Administration's highway policy is presently undefined, pending the renewal of the Federal Highway Program in fy 1992.
- Concerning mass transit, the Administration places emphasis on maintenance and restoration of existing facilities rather than funding new systems.
- Modernization of the air transportation system rates a high priority. An increasing proportion of Federal expenditures will be allocated to equipment rather than to construction.

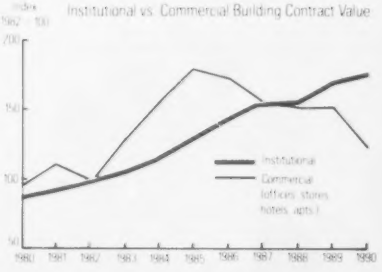
The transition of funding for sewer and waste treatment facilities from Federal EPA grants to state revolving funds (SRF's) has reached the point where all states are now in the program. Reduced dependence on Federal sources is one reason for a somewhat more favorable outlook for environmental construction than for transportation construction in 1991. However, water supply (which includes transmission, purification, and storage facilities) typically relates to the volume of general building, and is vulnerable due to the currently low levels of both housing and commercial construction.

Institutional Building: The "No Problem" Market

At a time when everything seems to be going wrong, there's a place where things are going right. That place is the institutional building market. This one exception to the problem-ridden construction industry is not only sizeable–355 million square feet in 1990 for a value of nearly $40 billion. It also is reasonably well insulated from the stresses bearing on commercial, residential, and public works construction.

The contrast between institutional and commercial building over the past decade (see chart) is a version of the fable of the tortoise and the hare played out in hard hats. Contracting for commercial building (offices, stores, hotels, and apartments/condos) got off to a blazing start, reached a peak about halfway through the decade, and subsequently gave up much of

INSTITUTIONAL BUILDING... THE EXCEPTION



its early gain. Meanwhile, institutional building was plodding to a different drummer, showing persistent rather than explosive growth all through the 1980's. By 1990 contracting for schools, health care facilities, and public buildings lifted total institutional building to very nearly double its 1980 amount with a gain of some kind in each and every year.

The staying power of institutional building is a partnership of demographics and finance. Second best growth of the population (hard on the heels of the 50's generation) is happening out at the ends of the age distribution–0 to 15 and 65 plus. More than anything else, the construction needs of these cohorts are, respectively, schools and health care facilities. Even the fact that much of this construction is publicly funded has not been a handicap. Unlike infrastructure work which is heavily dependent on Federal programs, most institutional building is funded by state and local governments which, until recently at least, have enjoyed budget surpluses. The bond market provides long-term financing.

Educational building, elementary schools in particular, has been responding to the upturn of birth rates since the 1970's, leading to an acceleration of building during the second half of the past decade. The other fast track category, public administration buildings, is being driven mainly by the expansion of prisons. Health care facilities showed most of their growth in the first half of the 1980's, and slowed considerably in recent years.

The prospect of recession in 1991, as it squeezes state/municipal revenues, threatens to stall the long expansion of institutional building. The experience of 1980-82, however, when building advanced despite a much deeper recession and higher bond rates than anticipated for 1991, suggests that the threat isn't a serious one. More likely: a smaller than average gain of one or two percent next year, vs. the 6 percent annual rate of increase for the past five years.

THE OTHER "R" WORD: RECOVERY

Although construction markets face the risk of further decline over the winter of 1990/91, it is not too soon to anticipate the next recovery and the cyclical expansion that will follow. Excerpts from the latest edition of the F.W. Dodge five year forecast of national and regional construction markets are the basis for this scenario for the first half of the new decade.

1991 Next year should bring the conclusion of the building slump which began early in 1990. As construction recessions go, this one could be ranked as medium severe. After adjustment for inflation, the rate of contracting during 1990 and 1991 will have been 15 percent stronger than in either of the previous two cyclical troughs (1981/82 and 1974/75).

1992 As usual, housing will show the way to recovery of construction markets. Falling interest rates through the second half of 1991 will set the stage for a modest advance of housing starts. A replay of the 50 percent surge (from 1.1 million to 1.7 million units) that 1983 brought, or even the 30 percent first year rebound that followed the 1975 recession are not within reach, however. Fading demographics, stubbornly high vacancy rates in multifamily units, and a less than satisfactory resolution of the savings and loan disaster will dampen the usually strong early recovery of residential building. Nevertheless, the 1992 total of 1.4 million units will be a 20 percent improvement over 1991.

Despite little support from commercial building or from public works construction, total contract value will advance approximately 15 percent to $275 billion, demonstrating once again that the recovery of the construction sector is almost always an exclusively residential event.

1993 It gets better. With the long-awaited comeback of commercial building, the nonresidential side of the construction market will be reinforcing the further expansion of housing to 1.5 + million units, lifting total construction contract value to the vicinity of $300 billion.

1994 The thrust that keeps total construction contracting expanding in 1994 will be coming principally from nonresidential building and to a lesser degree from public works. By then housing will have settled into a sustainable 1.4 to 1.5 million unit range appropriate to the expected rate of household formation in the mid-1990's. Both commercial building and infrastructure projects have the potential for double digit gains in 1994, carrying total contract value to $325 billion.

1995 Across-the-board dollar gains between 5 and 10 percent for all three broad categories of construction will boost total contract value to almost $350 billion by mid-decade. At this time, however, the recovery/expansion of the early and mid-1990's will be losing its momentum. More of the year-to-year gain will be due to inflation than to real growth.

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